

Claims

1. Method for implementing vibration output commands for controlling a vibration actuator (46) of a mobile terminal device, comprising:
 - 5 - defining at least one vibration effect (2.1, 2.2, 2.3, ..), defined by at least one vibration signal parameter,
 - defining at least one vibration pattern (4.1, 4.2, ..) by at least one of said vibration effects (2.1, 2.2, 2.3, ..), and
 - storing said at least one vibration pattern (4.1, 4.2, ..) into a storage.
- 10 2. Method according to claim 1, wherein said vibration signal parameter includes at least one of a designation, an intensity, and a duration of a vibration.
3. Method according to claim 1 or 2, wherein said at least one vibration pattern (4.1, 4.2, ..) is
15 also defined by a designation of the vibration pattern (4.1, 4.2, ..).
4. Method according to anyone of claims 1 to 3, wherein said vibration patterns (4.1, 4.2, ..) are further defined by a frequency and a phase of said vibration.
- 20 5. Method according to anyone of the preceding claims, further comprising:
 - retrieving said at least one stored vibration pattern (4.1, 4.2, ..), and
 - sending said at least one vibration pattern (4.1, 4.2, ..) to a terminal device.
6. Method according to anyone of the preceding claims, further comprising:
25 - selecting at least one of said stored vibration patterns (4.1, 4.2, ..).
7. Method according to at least anyone of the preceding claims, further comprising:
 - receiving vibration data, and
 - defining said vibration effects (2.1, 2.2, 2.3, ..) and said at least one vibration pattern (4.1,
30 4.2, ..) according to said vibration data.
8. Method for implementing vibration output commands for controlling a vibration actuator (46) of a mobile terminal device, comprising:
 - receiving at least one vibration pattern (4.1, 4.2, ..), wherein each pattern is defined by a
35 succession of vibration effects (2.1, 2.2, 2.3, ..), wherein each vibration effect (2.1, 2.2, 2.3, ..) is defined by at least one vibration signal parameter, and
 - storing said least one vibration pattern (4.1, 4.2, ..).

9. Method according to claim 8, further comprising:
- receiving a request for a vibration pattern (4.1, 4.2, ..),
 - retrieving said requested vibration pattern (4.1, 4.2, ..), and
 - 5 - sequentially outputting each vibration effect (2.1, 2.2, 2.3, ..), by controlling a vibration actuator (46) accordingly.
10. Method for operating a vibration actuator (46) of a mobile terminal device, comprising:
- receiving at least one vibration pattern (4.1, 4.2, ..), wherein each pattern is defined by at least
10 one vibration effect (2.1, 2.2, 2.3, ..), and wherein each of said vibration effects (2.1, 2.2, 2.3, ..) is defined by at least one vibration signal parameter,
 - sequentially outputting each of said at least one vibration effect (2.1, 2.2, 2.3, ..) of said received vibration pattern (4.1, 4.2, ..), by controlling a vibration actuator (46) accordingly.
- 15 11. Method according to anyone of claims 8 to 10, wherein said vibration signal parameter includes at least one of a designation, an intensity, and a duration of a vibration.
12. Method according to anyone of claims 8 to 11, wherein said at least one vibration pattern (4.1, 4.2, ..) is also defined by a designation of the vibration pattern (4.1, 4.2, ..).
- 20 13. Method according to anyone of claims 1 to 7, characterized by further comprising the steps of the methods of anyone of claims 8, 9, 11 or 12.
14. Method according to anyone of claims 1 to 7, characterized by further comprising the steps of
25 the method of anyone of claim 10 to 12.
15. Method according to anyone of the preceding claims, wherein said vibration intensity of said vibration effects (2.1, 2.2, 2.3, ..) is defined by a duty cycle.
- 30 16. Method according to anyone of the preceding claims, wherein said vibration patterns (4.1, 4.2, ..) and vibration effects (2.1, 2.2, 2.3, ..) are stored and sent as extensible markup language coded data.
- 35 17. Software tool comprising program code means stored on a computer readable medium for carrying out the method of anyone of claims 1 to 16 when said software tool is run on a computer or network device.

18. Computer program product comprising program code means stored on a computer readable medium for carrying out the method of anyone of claims 1 to 16 when said program product is run on a computer or network device.

5 19. Mobile terminal device comprising,

- a processing unit (42),
- an interface (44), connected to said processing unit (42), and
- a vibration actuator (46), connected to said processing unit (42),

10 characterized in that said terminal device is configured to receive at least one vibration pattern (4.1, 4.2, ..) via said interface, wherein said vibration pattern (4.1, 4.2, ..) comprises at least one vibration effect (2.1, 2.2, 2.3, ..), and wherein each said vibration effect (2.1, 2.2, 2.3, ..) comprises at least one vibration signal parameter, and wherein said processing unit (42) is further configured to control said vibration actuator (46) according to said vibration signal parameters of said at least one vibration effect (2.1, 2.2, 2.3, ..).

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20. Mobile terminal device according to claim 19, wherein said vibration signal parameter includes at least one of a designation, an intensity, and a duration of a vibration.

20 21. Mobile terminal device according to claim 19 or 20, wherein said at least one vibration pattern (4.1, 4.2, ..) is also defined by a designation of the vibration pattern (4.1, 4.2, ..).

22. Mobile terminal device according anyone of claims 19 to 21, wherein said vibration patterns (4.1, 4.2, ..) are received in form of extended markup language files.

25 23. Mobile terminal device according to anyone of claim 19 to 22, further comprising a storage (48) to store said received vibration patterns (4.1, 4.2, ..).

30 24. Mobile terminal device according to claim 23, wherein said processing unit (42) is configured to execute an application program capable of accessing stored vibration patterns (4.1, 4.2, ..).

25. Mobile terminal device according to anyone of claims 19 to 24, where in said interface (44), is a radio interface.

35 26. Mobile terminal device according to anyone of claims 19 to 25, wherein said mobile terminal device comprises a mobile telephone, and wherein said vibration actuator (46) is a vibration alarm actuator of the telephone.